

. . . A Conservation Plan



FOR A BETTER

WAYLAND . . .



CONSERVATION COMMISSION

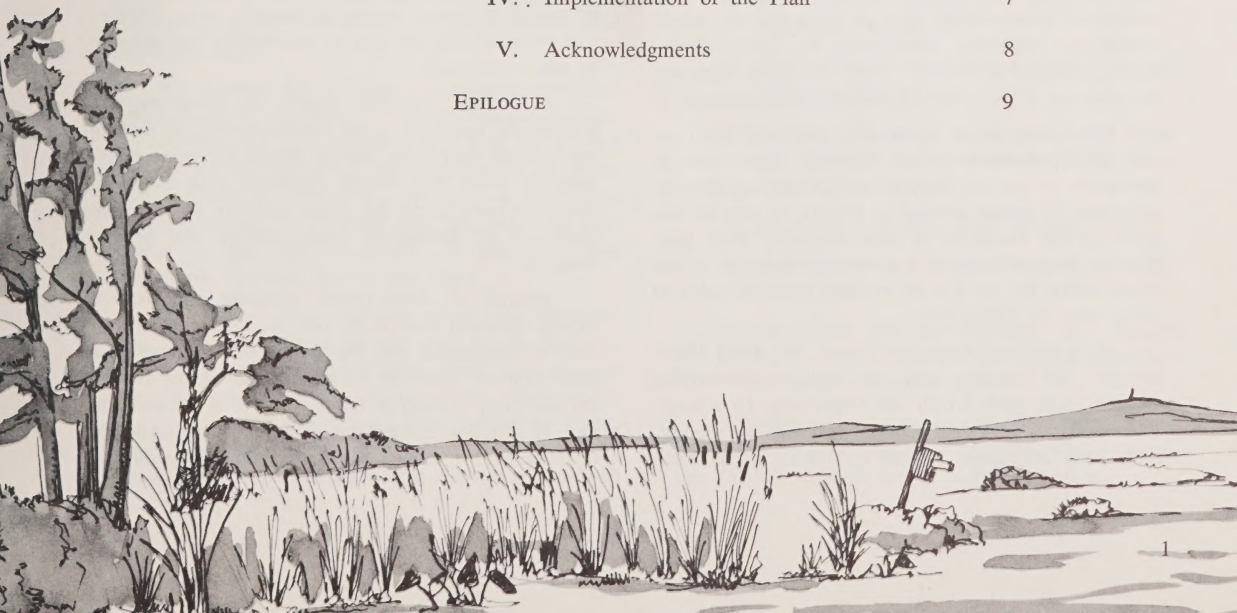
Wayland, Mass.

CONSERVATION PLAN AND REPORT

December, 1966

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PREFACE

Wayland is a low-lying town in the valley of the Sudbury River. Well over 20% of its area is water and marshland, and a considerable additional portion is subject to excessive flooding in wet seasons. The water table in the soil, except in dry seasons such as those of the past three years, is high. Springs and streams are numerous and areas near them subject to overflow.

As a result of all these factors and the Town's extremely rapid growth in population, the town government has been faced with the necessity for strict control of building sites both for residence and business, if it is to avoid dangers to health and inordinate expense for a sewage system. Lack of proper controls in the early part of this century has resulted in heavy expenditures year after year to acquire and demolish properties built on wet lands and in riverside speculative developments upon property that was never suitable for habitation, considering the Town's three-century history of floods. Such municipal expenses for mistakes of the past unfortunately still continue.

The spring floods common to this area often result, also, in losses to private citizens. Water rises in basements to put out heaters and damage appliances, sometimes in houses erected or bought by persons unaware of this likelihood of water damage. Such happenings are expensive to the owners, and also to the municipality, for the fire department must be called to pump out the basements.

As a result of these conditions, our many lakes, streams and marshes, and our extensive underlying clay or other soils which are impervious to sewage, it is imperative, if only from a health standpoint, that Town ordinances restrict residences to dry loca-

tions to diminish as far as possible the likelihood of flood damage and pollution damage.

On the other hand, the Town's many springs, streams and marshes form one of its most important resources. Because of them, and the wide underlying water table responsible in part for the constant flow of springs and brooks, Wayland possesses one of the most valuable sources of municipal water supply to be found anywhere. This water is not only of excellent quality and adequate quantity, but it is available close to the surface and therefore at comparatively low cost.

Though the Town and other public bodies have spent large sums to purchase land adjoining well sites to protect its water supply, Wayland can never hope to be able to acquire all the land that contributes to its abundant ground water and keeps it pure. Hence, it is essential that we seek to accomplish this purpose by wise ordinances.

A further beneficial aspect of protecting the marshlands upstream from encroachment, is that in wet seasons they form storage basins for great quantities of water that would otherwise rush down to flood our lower areas still more and thus increase the likelihood of damage to roads, culverts and private property.

Beyond all these potent grounds, and from a strictly financial standpoint, lies the matter of the attractive appearance and the quality of the Town as a place to live. That this is a prime factor in the Town's extraordinary growth in taxable values is apparent to all. Is it not to our interest as citizens and taxpayers to make every possible effort to retain this quality?

INTRODUCTION AND SUMMARY OF CONCLUSIONS

Since its establishment by Town Meeting vote in 1961, the Wayland Conservation Commission has been actively engaged in a variety of programs inherent in meeting the responsibilities assigned to it under state law. It has studied the conservation problems, responsibilities and opportunities of the Town; it has tried to plan for the preservation of the natural resources of the community; and it has negotiated land purchases and agreements with landowners to achieve this end.

In 1965 the Commission recognized the need for a more comprehensive and long-range approach in view of the magnitude of its overall tasks and increasing urban pressures. Such an undertaking was beyond the capacity of a seven-member Commission both in skills and time. Therefore an advisory committee, specialized subcommittees and a professional planner were recruited to assist in developing a conservation master plan.

The creation of a conservation master plan (herein called the Plan) fills three needs: it presents a program for action conceived within the overall planning framework of the Town; it puts Wayland in a position to take advantage of several state and federal aid programs whereby communities with such a Plan can be reimbursed up to 75% of the cost of acquisition and development.

The Commission believes a long-range conservation program is not a luxury, but an economic necessity for Wayland. It believes that it is in the Town's best interest to protect its natural resources for practical purposes as well as for the personal enjoyment of townspeople. It believes that the need for protection is urgent and compelling. Several basic facts concerning Wayland govern this belief.

1. *Water is an important factor in Wayland.* The Town is bordered on one side by the Sudbury River and its broad flood plain which encompasses over 20% of the Town. At least eight tributaries of the River extend throughout Town, including Trout, Hazel, Mill, Pine, Hayward, Wash, Snake and Dudley Brooks, as well as other intermittent or less well-defined

waterways. There are three Great Ponds of considerable size as well as numerous smaller water bodies. There are additional substantially wet areas, including meadow and wooded swamp. Underground water sources provide us with a public water supply of high quality and quantity.

2. *Wayland has no public sewerage system.* The wetness and generally impervious nature of much of our soils preclude high density development. In a recent Soil Survey over 60% of the Town was found unsuitable for septic tank sewage disposal.

3. *Wayland is in a mature stage of development.* Under existing zoning much of the land suitable for development is gone. Little time is left to determine how the remaining 20% of the Town's area that is still open will be used and how our natural resources will be protected. Land least desirable for development is often most desirable for conserving these resources. It will cost the Town money to save certain open areas, but it will cost far more if they are abused.

4. *Wayland cannot afford to abuse its natural resources.* Conservation of its resources will save Wayland taxpayers money in many ways:

- a) protecting the quantity and quality of drinking water sources;
- b) forestalling the need for an expensive town-wide sewerage system;
- c) lessening the cost of public services for drainage, flooding and pollution problems in unsuitable building areas;
- d) protecting cost-free flood storage areas;
- e) providing natural recreation and education areas; and
- f) enhancing the healthfulness and natural beauty of the Town which reflect themselves in higher real estate values.

This Report and Conservation Plan makes specific recommendations designed to insure proper utilization of land valuable for all of these purposes.

SUMMARY

CONSERVATION PROPOSALS:

1. a) That Wayland protect its principal water courses, their primary flood storage marshes, and the ponds through which they flow, by an appropriate amendment to the Zoning Bylaw, as delineated on Map B.
- b) That Wayland initiate a program whose goal is to place under permanent protection those areas considered so valuable for water supply, flood control, pollution protection and related natural resource purposes as to represent the only feasible way to safeguard the public interest. The areas now considered to merit this action are delineated on Map A.

Their acreage total is as follows: (See Page 6)

Total Acreage of Wayland—10,163.00 Acres

Total Existing Public and Semi-Public

Conservation	394.*
Total Proposed Acquisition	606.
Total Proposed Protection	716.
Total Acreage Proposed for Long-Range Preservation	1,716.

*Includes Water, Park, Conservation Commission and Sudbury Valley Trustees Land.

- c) That the Planning Board, Conservation Commission and other Town Boards and Committees cooperate to this end in carrying out their respective functions, and in continuing a program of study, analysis and updating of the recommendations made herein.

LAND USE ANALYSIS

		1966	Projected 1975 With Plan
<i>Population</i>		12,830	17,000
<i>Land Use</i>	<i>Acres</i>		
1. Developed Residential (Includes 60 Acres churches and clubs)	4,530	45.5%	57 %
2. Undeveloped Private Land	1,980	20 %	—
3. Business, Commercial, Industrial and Utilities	190	2 %	2 %
4. Public Land—Federal	1,574	15.5%	15.5%
—State	328	3 %	3 %
—Local roads	415	4 %	6 %
schools	201	2 %	2 %
services	80	1 %	1 %
water, park, conservation	205	2 %	8 %
5. Sudbury Valley Trustees	193	2 %	2.5%
6. Private Recreation (golf courses, camps)	231	2 %	2 %
7. Great Ponds	236	2 %	2 %
TOTALS.....	10,163 Acres	101 %	101 %

10,163 Acres in Town = 101%

100 Acres = 1%

December, 1966

DETAILED RECOMMENDATIONS

A) ZONING

In order to implement its recommendation that the Town protect its principal water courses by zoning, the Commission has presented to the Planning Board a map delineating the land to be protected (Map B), and a draft of proposed wording for the Zoning Bylaw amendment (below), with the request that the Board present it to the Town Meeting for action.

NEW SECTION X-C — WATERSHED PROTECTION DISTRICT

1. The purpose of this section is to preserve and protect the streams and other water courses in the Town and their adjoining lands; to protect the health and safety of persons and property against the hazards of flooding; to preserve and maintain the ground water table for water supply purposes; to protect the community against the detrimental use and development of lands adjoining such water courses and to conserve the watershed areas of the Town for the health, safety and welfare of the public, and therefore all areas in said Watershed Protection District are subject to the following regulations:
2. Except as provided herein and in paragraph 4 of this Section X-C:
 - (a) No building, wall, dam, or other structure shall be erected, constructed, altered, enlarged or otherwise created or moved for any living or other purpose, provided that non-commercial signs not exceeding four square feet in size, tents, fences, wildlife management shelters, foot-bicycle-horse paths and foot bridges are permitted if
 - (i) they are accessory to lawful primary uses in a single residence district and
 - (ii) they do not affect the natural flow patterns of any watercourse.
 - (b) Dumping, filling, excavating or transferring of any material which will reduce the natural flood-water storage capacity or interfere with the natural flow patterns of any water course within this District is prohibited.
3. The following uses, insofar as permitted in single residence districts, are permitted as a matter of right, subject to the provisions of paragraph 2 of this Section X-C.
 - (a) Conservation of soil, water, plants and wildlife;
 - (b) Outdoor recreation including play and sporting areas, nature study, boating, fishing and hunting where otherwise legally permitted;
 - (c) Proper operation and maintenance of dams and other water control devices, including temporary alteration of the water level for emergency or maintenance purposes;
 - (d) Grazing, farming, nurseries, truck gardening and harvesting of crops;
 - (e) Forestry;
 - (f) Any religious use or any educational use which is religious, sectarian, denominational or public as provided for by Section 2 of Chapter 40A G. L.;
 - (g) Uses accessory to residential or other primary uses, such as flower or vegetable gardens, lawns, pasture or forestry areas.
4. Upon the issuance of a special permit for an exception by the Board of Appeals, and subject to such special conditions and safeguards as the Board of Appeals deem necessary to fulfill the purposes set forth in paragraph 1, the following uses as permitted in single residence districts are permitted:
 - (a) Duck-walks and boat landings;
 - (b) Appropriate municipal use, such as waterworks pumping stations and parks;
 - (c) Temporary storage of materials or equipment;
 - (d) Dams, excavations, or changes in watercourses to create ponds or pools for swimming, fishing or other recreation or agricultural use, scenic features, or for drainage improvements consistent with the purposes of this section; and
 - (e) Driveways and roads where alternative means of access are impractical.
5. The portion of any lot in a Watershed Protection District may be used to meet the area and yard regulations for the district in which the remainder of the lot is situated.
6. All water bodies encircled by the Watershed Protection District are hereby included within said District.

B) LONG RANGE PRESERVATION

ANALYSIS OF CONSERVATION PLAN PROPOSALS BY WATERSHED (In Acres)

Watershed	Total Area	Map Area	Description	Parcel/ Owner	To Be Acquired	To Be Protected	Existing* Protection	Resource Values
TROUT BROOK	267	(1)	Trout Brook Area	8/6	26.1	5.0	45.4	W1, W2, W3, O1
HAZEL BROOK	756	(2) (3) (4)	Upper Hazel Central Branch Lower Hazel	16/11	96.2	58.4	62.7	W1, W3, R1 W1, W3, R2, O3 W1, W2, R1
MILL BROOK	1,060	(5) (6)	Upper Mill Lower Mill	7/7	80.0	2.0	75.2	F1, F2, O3, R2 R1, R2, R3, W1, W3
HAYWARD PINE BROOKS	1,547	(7) (8)	Hayward Area Pine Area	22/18	151.2	61.5	23.9	W1, O3 W1, W2, W3, R1, R2 R3, F1, F2, O3
SNAKE BROOK	1,729	(9) (10)	Upper Snake Lower Snake	18/14	242.6	13.9	121.0	W1, W2, R2, F1, F2 W1, O2, O1
DUDLEY BROOK	715	(11)	Pond and Brook	3/3	1.0	.01	13.7	W1, W2
SUDBURY RIVER	370	(12)	Lake Cochituate	1/1	—	7.5	8.5	R1
LOCAL	457	(13)	Pod Meadow	7/6	—	98.8	4.3	W1, W2, W3
	2,090	(14)	Central Valley	6/6	—	235.5	31.5	W1, W2, W3, O1, O3
	1,040	(15)	Broad Meadows	13/10	8.6	233.4	8.2	W1, W2, W3, O1, O3
CHARLES RIVER	132	—	—	—	—	—	—	—
TOTAL	10,163	Acres		101/82	605.7 Acres	716.0 Acres	394.4 Acres	

Resource Values—W1—flood storage, drainage
W2—water supply storage and protection
W3—fish and wildlife habitat

F1—town forest, watershed lands
F2—botanical, geological values

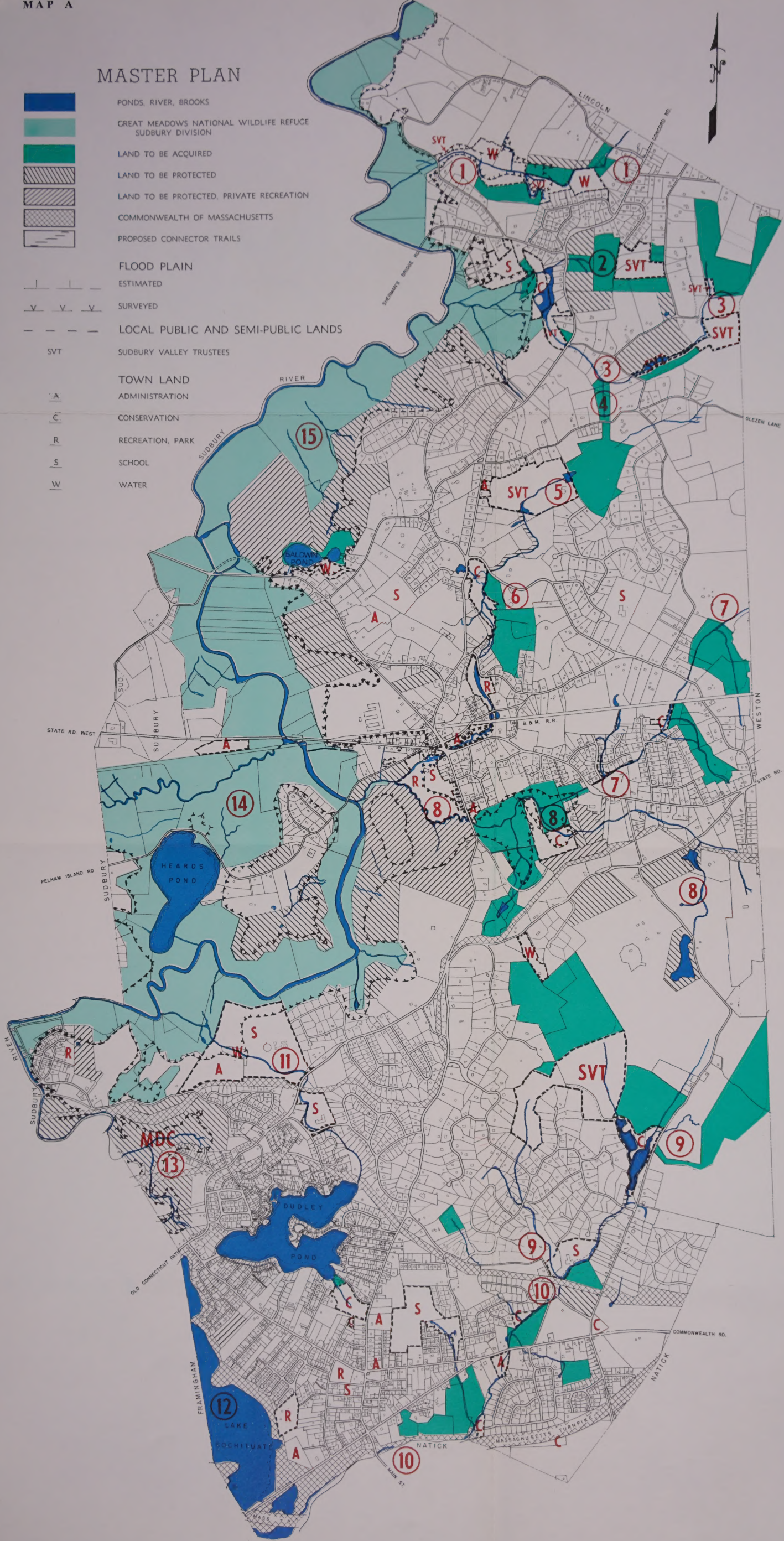
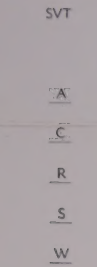
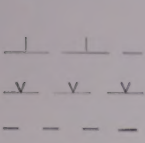
R1—water recreation site
R2—hiking, riding trails
R3—fishing

O1—aesthetic, scenic values
O2—planning buffer, greenbelt
O3—open space asset

*Includes Town (Water, Park, Conservation) lands, and Sudbury Valley Trustees land.

SEE MAP A — OPPOSITE

MASTER PLAN





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IMPLEMENTATION OF THE PLAN

The zoning proposal is the initial action recommended by the Commission. It is the most significant non-appropriation step which the Town can take. The map identifying lands which would be subject to zoning restrictions illustrates and describes the boundaries of the District.

The long-range preservation proposals are identified on the map in three ways: publicly-owned areas that should continue to be kept open for local conservation use; additional lands to be acquired; and those to be protected for conservation purposes. Implementation of these proposals can involve a variety of steps.

- (1) Acquisition of land and related rights by gift or purchase. Land in this category is highly desirable for immediate public use such as town forests, and brook areas where public recreation, natural beauty and water resource values are concerned.
- (2) Protection of land through non-acquisition measures. Such steps include existing regulations such as flood plain zoning, sewage disposal restrictions, and sub-division controls at the local level and the Hatch Act for inland wetland control at the local and state level; and such proposed planning aids as cluster zoning and an open space tax assessment plan whereby open lands can be encouraged to remain open. Protection areas are those lands whose present use is beneficial to the Town but Town use or ownership is not necessary. Generally, agricultural lands, recreation areas such as golf courses and open flood plain are in this category. Town ownership would not be ruled out, however, if land use and conservation values cannot be protected short of acquisition.

The future of the long-range Plan as a whole and the details of its implementation will depend on the preference of townspeople and individual landowners. Proposals for acquisition will be negotiated and presented to the Town Meeting for approval and funds. The cost of acquisition and development can be financed in four ways:

- (1) Local taxes — either through the Conservation Fund appropriations, or through a local bond issue.

- (2) Federal aid programs such as the Open Space Land Acquisition Program of the Housing Act of 1965, and the Land and Water Conservation Fund of the Bureau of Outdoor Recreation.
- (3) State programs such as the Self-Help program of the Department of Natural Resources, through a combination of state and federal aid up to 75% of the total costs can be reimbursed to a town.
- (4) Gifts of monies, lands and easements.

Making the Plan effective will further depend on an effective program of cooperation between several Town Boards:

- (1) The assistance of the Finance Committee will continue to be sought to work out a capital budget procedure to assure an orderly progression, in keeping with the financial capabilities of the Town.
- (2) The assistance of the Selectmen, Planning Board and Board of Health will continue to be sought in order to fully utilize existing means of implementation.
- (3) Coordination with the recreation agency in Town, whether the Park Department or a separate agency, will be needed, for there is a great amount of overlapping interest in a program of preserving open space. Joint sponsorship of certain acquisition proposals for conservation and recreation use can insure maximum public utilization of local resources.

The Commission has considered 1975 as the date when population growth will reach saturation under present zoning regulations. If the Plan is to become a reality by that time, a major proportion of the recommendations will have to be carried out in the next few years. Delay will be costly and possibly self-defeating, since certain significant lands could be pre-empted for other uses and forever lost to the community. No better example of the desirability of early action can be pointed out than the Town's own experience of a few years ago in purchasing seven sites for future school use and development. The widespread cooperation of the entire community will be needed to accomplish the objectives of this Conservation Plan.

ACKNOWLEDGMENTS

This report would not have been possible without the unstinting effort of many Wayland citizens who contributed talent and leadership throughout more than a year of research, analysis and hard work. They are listed here under the primary advisory and committee headings into which their tasks were subdivided and organized:

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EPILOGUE

In 1639 a band of hardy pioneers struggled westward from Watertown and wrested the settlement that is now Wayland from a forest of towering chestnuts, oaks and pines. This primeval forest was broken only by the few fields cleared by the Indians, and the broad flood plain marshes of the Sudbury River. These were the primary attractions which led to Wayland's settlement at such an early date. The Sudbury Valley and its marshes offered natural resources in abundance — hay and pasturage for cattle, transportation, salmon and alewives each spring, furs and birdlife.

The price of settlement was high and was paid in human suffering. The monument at the old North Bridge attests to the danger of Indian attack, and the early records of the Town recount the many less dramatic hardships that beset the European immigrants.

Three hundred and twenty-seven years later this is only history. Today the primeval forest is gone. In all of Massachusetts hardly a spot remains untouched by man. As an inevitable consequence, a substantial proportion of the original associations of plants and animals has been destroyed or appreciably altered — by man himself.

Although one may conjecture that much of the original natural condition has returned to many rural areas of the state, it is far from the forest primeval of pre-settlement days. The woodland caribou and passenger pigeon are gone forever. The chestnut has all but disappeared. Will even the bald eagle and osprey — common visitors here only 20 years ago — follow into oblivion the Algonquins who once built their lodges on the bluffs overlooking Dudley Pond, and speared salmon from the Sudbury River at Weir Hill?

By accident of economics time seemed to pass Wayland by. As a result a wealth of wildlife remains, and the country landscape and the River and its marshes still survive, lending beauty, interest and basic value to Wayland in its ancient lake bed valley.

Wayland is one of the earliest Colonial settlements. Its early pastoral history of prosperous farming by a small population buffered the valley's landscape until only recently from a new age with which we now struggle — an era of machines driven by an exploding human population. Our generation has seen the urbanization of Wayland, transforming its physical appearance and social character in only 20 short years. While an important remnant of the original country atmosphere and beauty remains, it is threatened as never before.

Elsewhere our national and state parks have preserved — we hope perpetually — the striking land forms, gigantic trees, rare flowers and many endangered birds and animals of this country, so very recently called by our forebears the land of unlimited resources. But in Wayland the threat is to man himself — for Wayland is the habitat of people, and elemental human values lie in the balance. A new need presses hard for recognition and pioneering action: the need to see that the once commonplace beauty and health of our surroundings, once taken so casually for granted, is preserved.

Wayland is richly endowed with great variety of this simple beauty. Ponds and brooks and their feeder streams nourish the river and its marshes. There are upland meadows and open vistas. There are red maples along the brooks and wooded swamps, and forests of the finest oak found anywhere on earth! This very variety of land and water and plants is the well-spring of equally varied animal life, from aquatic invertebrates, fish and insects up the evolutionary tree to birds and mammals. These all need almost instant help if they are to survive.

Unless a sizeable portion of this varied environment is reserved and protected and appreciated *for what is is*, free of the modern trappings of "development" dictated by a compulsion to "improve" every square foot of the land, the opportunity for retaining inherent quality in the Wayland environment will be lost. To the individual citizen, vitally important opportunities for education, relaxation and a superior kind of human enjoyment will be lost. We must today face our basic responsibility to pass on to our children and grandchildren a living environment of high quality.

Look about you. Natural scenes still commonplace in Wayland today are unique in greater Boston communities only a few miles to the east. Only five miles away this valuable fabric of nature, so attractive to the eye and ear, so refreshing to the spirit and inspiring to the mind, and so basically important to Wayland's economy, is gone!

It is in this spirit that the Conservation Commission commends this long-term plan to your attention and calls for its implementation. A sizeable and precious opportunity still remains: to seize it becomes more difficult, painful and costly with every passing year; it will wink-out forever within our lifetime if our generation does not act.

Allen H. Morgan,
Chairman

WAYLAND CONSERVATION COMMISSION

DECEMBER, 1966

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I. Conservation and the Tax Rate

Conservation is both the art and the science of maintaining, improving and protecting the natural resources of a community. This includes preserving the "balance of nature" - a dynamic and complex interrelationship between plants, animals, soil, water and air. Conservation of open areas for their resource qualities is the only way Wayland can safeguard a proper balance between the natural environment and urban development. When seen in this context, conservation has economic and social values to a community.

The acquisition or protection of conservation areas may appear costly to the superficial glance, but there are in fact many resulting economic values. Such areas contribute to protecting essential water resources, allowing for adequate storage and drainage of storm water runoff, and preserving desirable natural features for public use and enjoyment, such as ponds, stream valleys, hills, fields and woods.

Conservation stewardship of natural resources also imparts important social values to a community. Though difficult to measure, they are nonetheless real. The opportunity for outdoor recreation close to home helps to relieve the monotony and tensions of daily metropolitan life and weekend driving. The quality of environment, enhanced by green belts and scenic open space, stabilizes individual neighborhoods. The act of conservation by a community has an educational and cultural impact that will set a high standard for succeeding generations to follow in passing on these natural resources to their children.

There is an increasing recognition of these values by the general public. The geographic magnitude of recent suburban expansion deeply impresses even the casual observer. Yesterday's fields and woods are today's shopping centers and residential neighborhoods. However, the urgent need for variation and relief from the endlessly repetitive pattern of building, and for more prudent conservation of remaining open space and natural resources, have not been fully appreciated even by those who are disturbed by urban encroachment. Recent biological research indicates that the impact on man's health is direct, prompt and important.

Land that is set aside in a conservation program is not a loss to the Town and to its tax base. A community's open space is as much an integral part of its composition as are homes, stores, public buildings and schools, yet it requires no heavy capital investment, municipal services, or continuing maintenance expense of any real magnitude. Sound and healthy community development demands the inclusion of open space in its growth pattern to complement the developed space. Open space areas should not be relegated to those unlikely spots which have been inadvertently left undeveloped but should be given primary consideration because of their intrinsic value.

The experience of many communities throughout the United States and elsewhere, including carefully documented research studies, has demonstrated the dollar value of open space and the many amenities associated with it. The evidence is very great in Wayland itself that rapidly rising land and home values over the last twenty years have been substantially influenced by broad conservation values.

The history of rising tax rates in Wayland and other towns demonstrates conclusively that residential growth generates increased costs of public services well in excess of the tax revenues paid by typical residential growth.

As relative population size increases to a point where the efficiency of high volume can be expected to stabilize the spiraling tax rate, new and major costs are generated by the destruction of natural resources such as water and the corollary problems this creates simultaneously, as described in this report:

1. Dwindling ground water supplies requiring enormously increased expense - such as Weston's current financial burden estimated at more than 1/4 million dollars to join the MDC water system.
2. Flooding problems requiring expensive dredging or protective devices, such as those now faced by Saxonville for its recently announced \$1,470,000 flood control project. Or just downstream at Riverview where Wayland itself in the 1930's and 1940's carried out its own "urban renewal" type condemnation of many homes built on the flood plain of the River.
3. The pollution problems which force a central sewage system at enormous cost - as experienced by Natick and Framingham within the past few decades.

It is these large new costs that this Conservation Plan is designed to avoid. Detailed financial studies conducted in nearby Massachusetts communities and elsewhere have demonstrated that the financial cost of such an action program is far less than inaction. In Lexington, for example, a careful study calculated the impact on the Town if 2,000 acres of land - the least accessible and least buildable land remaining - were either -

1. allowed to be developed with housing and industry in the usual way; or,
2. purchased by the Town and kept in its natural state.

The study projected new tax revenues as well as costs for various municipal services, various savings in terms of costs avoided and present real estate values maintained. Interestingly enough, this study concluded that the annual average increase in net expense to the Town would amount to \$250,000 over a 20-year period under 1, and only 75,000 under 2. - a net saving on the tax rate of \$175,000 each year on the average. This is the estimated financial gain secured by protecting water resources and the general quality of Lexington's environment.

II. Goals

The goal of the Wayland Conservation Commission is to plan and arrange for protection of the Town's natural resources, including but not limited to such programs as maintenance of water supply sources, prevention of pollution, protection of developed areas against flooding, retention of open land for recreational use and wildlife refuges, and preservation of Wayland's rural beauty. More specifically, these are expressed in the following terms:

A. Planning

1. To locate, define and protect areas of significance to the water resources of the Town, including:
 - a. Brooks and the wetland areas necessary to guarantee stream flow;
 - b. Areas, which if used for building purposes, would create a flooding or pollution hazard, especially from the leaching of effluent from on-site septic tank systems;
 - c. Ground water recharge areas for maintenance of the ground water level and underground water supplies;
 - d. Existing ponds and potential impoundment sites for recreation, scenic and fire protection purposes;
 - e. Important wildlife wetland areas (in addition to the National Wildlife Refuge - U.S. Dept. of the Interior - along the Sudbury River); and
 - f. Fishing areas.
2. To preserve a variety of open spaces, well-distributed throughout the Town, according to a plan, including:
 - a. Several substantial tracts of undeveloped land (both open and wooded), including some that are readily visible, to preserve the natural beauty of the landscape, and large enough to maintain the interior free from contact with surrounding uses;
 - b. Smaller buffers of open land, crossing main roads where necessary, to separate neighborhoods and break the monotony of residential development;
 - c. Appropriate areas adjacent to existing town lands, the National Wildlife Refuge and lands of the Sudbury Valley Trustees that will be mutually complementary;
 - d. A network of land or easements to make possible a system of trails for walking, horseback riding and bicycling, interconnecting all public open spaces so far as possible;

- e. Sites of special significance - for example, access to the river for boats, scenic, historic, unique natural history value and school study.
- 3. To anticipate and avoid future sewage disposal and drainage problems, and pollution hazards by:
 - a. Evaluating the Soil Survey;
 - b. By delineating areas of the Town whose soils preclude successful sewage disposal or require more than usual caution; and
 - c. By recommending appropriate regulations.

B. Implementation

- 1. To formulate a Conservation Master Plan for Wayland.
- 2. To initiate proposals to be acted upon by the Town to control future use of certain land areas, including:
 - a. Outright acquisition of land by purchase or gift;
 - b. Acquisition of limited rights (conservation restrictions, development rights, walking rights, etc.);
 - c. Zoning revision.
- 3. To undertake special projects, such as:
 - a. Tree planting and other community-wide beautification measures in cooperation with the Tree Warden;
 - b. Long-range management program of Town forest lands;
 - c. Anti-litter program;
 - d. Dump site review in relation to conservation program;
 - e. Regulations and other measures for appropriate use of conservation lands;
 - f. Education and public information;
 - g. Evaluation of town mosquito control programs in relation to conservation considerations and goals;
 - h. Studies to determine more exactly the sources of the Town's ground water supply;
 - i. Study of effect of assessment policies and taxation on the preservation of agriculture and open space;
 - j. Study of feasibility of placing utility wires underground.

III. Formulation of a Conservation Master Plan

A. The Work Program

1. The first stage of the development of a comprehensive conservation plan began in early 1965 when the Conservation Commission and a newly formed Advisory Committee met and agreed upon the basic policy goals. (See pp. 3-4.)
2. Then followed the accumulation of data, embracing a wide range of sources from the U. S. Soil Conservation Service soil survey to personal field surveys (See Appendix A). This stage was accomplished primarily by the Conservation Commission with the assistance of three working committees organized in mid-1965 to broaden the base of community participation and utilize the many talents and special skills needed and available in the Town. From the outset work was augmented by the advice and cooperation of the Planning Board. Liaison with the Board of Health and Selectmen was also established.

The assignments of the subcommittees were - Brooks and Wetlands Protection, Forest and Trails, and Soil Survey Evaluation. Each committee researched, analyzed and compiled data, and submitted a report to the Commission.

The Brooks and Wetlands Protection Committee inventoried and evaluated the major brooks and wetlands of the Town, and made recommendations reflecting their value and means of protection. Large-scale (1" - 400 ft.) aerial photos of the Town taken in May 1965 were acquired for this Committee's use. On overlays the boundaries of wet areas and their resource values were delineated.

The Forest and Trails Committee investigated the need for a town forest as well as the possibility of creating an interconnecting system of trails. A map was compiled by the committee plotting recommended acquisitions of wooded areas and trails which would connect with existing recreation or conservation lands to span the length of Wayland.

The Soil Survey Evaluation Committee analyzed the detailed information prepared for the Town by the Soil Conservation Service (U. S. Department of Agriculture - Middlesex County Conservation District). This report maps the soil types found in Wayland, and describes their suitability for various types of development, including particularly their limitations relative to septic tank disposal systems.

3. In the next stage, professional assistance was introduced with the employment of Mr. Charles Downe, professional planning consultant, to assemble the raw data and translate it into a meaningful and comparable analytical framework. The graphic data were compiled on a base map showing street, property and contour lines. The initial delineation on this map was the limits of wetlands as determined from overlays on the three aerial photographs prepared by the Brooks and Wetlands Committee.

A preliminary base map resulted which portrays three interests: (1) wetlands, (2) lands recommended for protection or acquisition by the Brooks and Wetlands Committee and (3) lands similarly recommended for protection or acquisition by the Forest and Trails Committee. On an overlay to this map the limits of the Sudbury River flood plain, public and semi-public lands, and the Sudbury River Valley areas acquired and being acquired by the Federal government for the Great Meadows National Wildlife Refuge along the river were delineated.

During the compilation of this map many field checks were made in addition to discussions with townspeople familiar with the areas in question in an effort to locate and identify as accurately as possible the lands that warranted inclusion. In addition to this important working map showing preliminary protection and/or acquisition recommendations, the planner prepared a detailed analysis of all primary brooks described foot by foot in "reaches", and a preliminary overall Plan draft.

4. The Conservation Commission next set about reviewing the preliminary report and map recommendations. Brooks protection immediately emerged as the basic obvious framework for a meaningful conservation plan. Without protection of the brooks themselves, other protective measures and purchases would be of greatly diminished value, or completely futile.

After many discussions and careful consideration, including consultation with several planners, zoning experts, and lawyers, a concept of protective zoning was developed as being more fair and equitable to the landowners and townspeople as a whole. Utilizing the specialized talents of the planner, as well as several lawyers and authorities on zoning who reside in Wayland, a Watershed Protection District zoning proposal was drafted and evaluated. The Brooks and Wetlands subcommittee was asked to determine on maps the boundaries of the brooks by watershed. For this purpose the aerial photos were enlarged to a scale of 200' - 1 inch to coincide with the town atlas map scale to facilitate this task and to guarantee its accuracy.

Due to the high priority nature of this proposal and because of the town meeting warrant deadline, the Commission concentrated its efforts on this aspect of the Plan. Throughout the fall of 1966 work proceeded on consideration of the new zoning proposal by the Commission, with special assistance by Mr. Downe and several other legal and planning consultants who were enlisted in committee work on this important and legally complex matter.

Great effort was made to publicize and explain this zoning proposal. At an early date in the drafting stage the wording was circulated among especially interested and knowledgeable people; a special meeting was held with the Board of Selectmen and the Planning Board to explain it in detail and to secure their counsel relative to it; and the complete wording and explanatory article was printed in local newspapers. Finally a series of eight meetings was held - at least one in each watershed area within the proposed District.

Every landowner affected by the proposal was sent a written invitation to attend (and a copy of the proposal), while the general public was invited via the newspapers. In all, 233 people attended these meetings.

Map corrections as well as suggestions and criticisms received at these meetings were carefully considered and evaluated, and where warranted were incorporated into the final provision draft and map. This was presented to and accepted by the Planning Board in December 1966, which in turn submitted it to the Selectmen for inclusion in the Warrant for 1967 Town Meeting. (See Appendix B)

5. Late in 1966 the Commission turned to the final stages of bringing together this comprehensive plan. The combined information gathered by the various subcommittees and analyzed by the planner was reviewed and augmented by the Commission. A final series of maps was developed to illustrate the final Plan recommendations. Assignment of priorities in value and time were also reviewed as an aid to implementation of the Plan.

B. Conservation Land Use Analysis

1: Wetlands

a. Flood Plain of the Sudbury River

A flood level of 121.5 feet above mean sea level (m.s.l.) was reached in the August 1955 flood. (This level puts water up to two feet deep over the intersection of Route 20 and Cochituate Road in Wayland center, and inundates parts of Pelham Island Road, Route 20 and the B & M railroad tracks, Route 27, Water Row, Weir Meadow Road, and a short portion of Oxbow Road). Major floods also occurred in 1936 and 1938.

In 1956 Wayland adopted Flood Plain Zoning up to the 124 m.s.l. contour, which describes the elevation below which building for human habitation may not occur. Approximately 25% of the Town is subject to these zoning regulations, almost all of which is within residential zoning areas.

The U. S. Fish and Wildlife Service is authorized to acquire up to the 120 ft. m.s.l. by special act of the Legislature for the establishment of a National Wildlife Refuge. This will involve over 15% of the land within the Flood Plain.

Wayland's major water supply well fields are located in or immediately adjacent to the Flood Plain.

b. Brooks and Streams

An extensive network of brooks and streams throughout the Town drains into the Sudbury River. Major carriers are Trout, Hazel, Mill, Hayward, Pine, Wash and Snake. Dudley Brook is an important little brook which is the only outlet to the river from Dudley Pond.

The brooks serve an important storm drainage and flood storage function. They are not protected by Flood Plain Zoning and are the basis of the proposed Watershed Protection District zoning amendment.

Some waterways are subject to septic tank seepage and dumping which cause nuisance and contribute to pollution. Most of the sources of the brook's pollution are local, but Wash Brook carries the Marlboro sewage treatment plant effluent to the Sudbury River.

c. Marshes

These wet areas are found extensively in the six watershed regions and are highly variable in size, from narrow stream beds to broad swamps. Many now appear dry due to the long period of drought.

Marshes along the brooks provide the expansion areas of land that protect and stabilize stream flow from upland regions to the river. These adjoining and complementary areas are vitally necessary for the normal function of streams in providing storm water storage and cost-free flood control.

Legislation governing inland waterways (Chapter 220 of the Acts of 1965 - the Hatch Act) theoretically provides limited control of certain marshes, but this insufficient protection should be enhanced by town control.

d. Ponds

Heard's Pond, Dudley Pond and Lake Cochituate are Great Ponds (over 10 acres) and subject to the common law rights of navigation, hunting and fishing. Those private ponds within brook beds which come under the provisions of the proposed Watershed Protection District are School House, Hazel Brook, Upper Mill Brook, Benjamin's, Baldwin's, Mill, Morgan's, Kilburn's, Hamlen's and Snake Brook Reservoir.

Only Lake Cochituate is now regularly stocked with fish by the state.

2. Uplands

The upland areas with which this report is concerned are especially important conservation areas because of their location, visibility or particular characteristics, such as trees or other ground cover, soils, slope, wildlife and scenic assets.

a. Stream Valleys

These upland areas adjacent to streams can be vital to the protection of the watercourse, particularly where steep slopes occur. Retention of stream border vegetation and slopes can help prevent erosion and retard the rate of water runoff.

Houses have encroached into stream valleys closely adjacent to the brook in several areas where additional protection is needed.

Opportunities exist for the creation of additional upland ponds. Upland areas also afford vantage points for outstanding vistas within the Town, and for access to watercourses.

b. Forests

There is no Town Forest in Wayland. This Plan recommends the acquisition of three wooded areas in Town for this purpose, since there is no single large forest area within the Town. Each of these recommended tracts is adjacent to an existing publicly or semi-publicly owned area that would make the combined acreage large enough to provide tangible forestry values.

Forests provide habitat for wildlife, soil erosion and watershed protection values and have an air pollution control and wind-break function. They also can function as pathways, hiking, camping and passive recreation areas.

c. Open Areas

Agricultural land has watershed protection value, enhances the survival of wildlife and does much to retain a country-like environment. Its continued use should be encouraged for this purpose.

Golf courses also supply the Town with more than recreation enjoyment. Because of their prominent locations, the two local golf courses share their scenic values with townspeople and the Town should seriously consider measures to perpetuate this present open use of the land.

3. Watershed Description

The following general descriptions relate to the primary watercourses, and omit many small branches some of which are intermittent or poorly defined. The measurements of overall length are general in that they make no attempt to precisely follow the stream meanders. Overall brook length is defined as the distance in Wayland from the source to the Sudbury River.

Primary Watersheds, and Sub-watershed Divisions:

I. Charles River Watershed

II. Sudbury River Watershed

1. The River itself and immediately adjacent local drainage areas. These include -

- a) Lake Cochituate
- b) Pod Meadow - Riverview
- c) Central Valley
- d) Broad Meadows

2. Trout Brook

3. Hazel Brook

4. Mill Brook

5. Hayward-Pine Brooks

6. Dudley Brook

7. Snake Brook

- - - - -

I. Charles River Watershed

The extreme southeast corner of Wayland at the Natick-Weston line - a total of approximately 132 acres in Wayland - drains east into the Charles River. It has no brook or primary drainage course of any sort. It is largely wooded, and the terrain is mostly steep and rocky.

II. Sudbury River Watershed

The balance of Wayland's 10,163 acres lies in the Sudbury River watershed. The river itself is characterized by two unusual features: it drains from south to north, and its gradient in this area is extremely flat (less than 2 ft. in 20 miles) with extensive flood plain marshes on both sides - in many places one half mile, and in a few close to a mile in breadth. Essentially the entire Town was cleared of its original forest cover dating from very early Colonial settlement (1639) and much of it placed under cultivation. Agriculture was the primary land use until the 1930's; it has been replaced by housing as the primary land-use, and exists today only as a remnant. Most of the land area is low rolling terrain with only a few high hills. There are several interesting geologic forms - eskers, drumlins, kettle holes, etc. Bedrock reaches the surface in several areas, but most surface soils are glacial till.

1. The River itself and immediately adjacent drainage areas:

Overall length approximately 8 miles.

a) Lake Cochituate:

This scenic body of water drains west out of Wayland and enters the Sudbury River at Saxonville. Increased in size by damming many years ago, it served for many years as part of Boston's water supply. With high wooded banks it is now

all protected by the State Park that bears its name. Snake Brook enters the River via Lake Cochituate.

b) Pod Meadow - Riverview:

Pod Meadow is an extensive area of the river flood plain in the southwest corner of Wayland on the Framingham line south of Stonebridge Road. It is owned by the Metropolitan District Commission for use as a "blow-off" drainage area for the two aqueducts that cross the River in this area. Major Framingham water supply wellfields lie immediately adjacent. Riverview lies just north of Stonebridge Road. Dense housing constructed here earlier in this century encroached seriously on the flood plain creating serious flooding and pollution problems. This has been largely corrected by the Town over the years by the purchase and demolition of substandard properties. The River here forms the boundary between Wayland and Framingham (Saxonville). The River's main flood plain starts here at Riverview and extends more than 20 miles north to Billerica.

It is this extensive flood plain marsh extending along the west border of Wayland from Riverview to the Lincoln town line (and beyond) that will comprise the new Great Meadows National Wildlife Refuge. Acting under a special Act of the Massachusetts Legislature passed in 1961, the U. S. Department of the Interior (Bureau of Sport Fisheries and Wildlife) has completed almost half its planned purchases. The Refuge will protect the area in its present state.

c) Central Valley:

Stretching from Heard's Pond and its extensive marshes to the south, to Route 27 at the north, the River is flat with extensive marshes on either side except for brief interludes. Heard's Pond is shallow and muddy, characterized at least in the past by excellent fishing; at high water levels it becomes an indistinguishable part of the lake that floods the entire Valley floor. Pelham Island, a true island at high water, in the last 30 years has been cut off at least four times from all access except by boat. It is surrounded on two sides by the River and on the others by Heard's Pond and Wash Brook Marsh, with an access bridge and two causeways via Pelham Island Road. Major water supply well fields lie immediately adjacent to and in the large flood plain marshes of this area, between Riverview and the High School, south of Heard's Pond and the River. East of Pelham Island extends the Sandy Burr Golf Course, much of which lies within or is surrounded by the River flood plain. Pine-Hayward and Mill Brooks enter here.

Wash Brook drains east from Sudbury, joining the River at Route 20. Because in Wayland it lies entirely within the flood plain and will be included in the Great Meadows National Wildlife Refuge, it has been essentially excluded from this report.

From Route 20 north to Route 27 the River meanders through flood plain marshes about a half mile wide, with extensive adjacent open fields between it and Old Sudbury Road and extending almost into Wayland center.

d) Broad Meadows:

From Old Sudbury Road (Route 27) north the River again becomes the boundary between Wayland and Sudbury. The flood plain reaches its greatest extent here - some two miles by one mile - overlooked by distant hills, and broken only by the scenic narrows formed by Weir Hill near Oxbow Road.

Like Sandy Burr, the Wayland Golf Course lies mostly within the flood plain. Immediately to the south and east is Wayland's original water supply pumping station and well fields, again all lying within the flood plain. Here the ground water supply is directly visible at the surface in the form of Baldwin's Pond.

To the north the edge of the flood plain consists of extensive wooded swamp and adjacent farmland (dairy). Hazel Brook enters the flood plain just south of Sherman's Bridge, while 2,000 ft. to the north Trout Brook enters the river near Oxbow Road.

Brook Subwatersheds

2. Trout Brook:

The smallest subwatershed, approximate overall length 6,500 ft., Trout Brook, arises at the extreme northern border of Wayland at and near the Lincoln line in a series of small springs and swamp areas just north of Oxbow Road and west of Concord Road. It descends sharply as it flows southerly under Oxbow Road some 750 ft. into an extensive flat basin of swamp maples just north of Red Barn Road. From Concord Road near Oxbow and Waltham Roads looking west, this basin offers a fine view with Mt. Wachusett in the background. The basin itself is at or near the level of the flood plain of the River - the official flood plain extending some 4,200 ft. up this brook from the River. Water flow in the brook is augmented heavily by a series of large springs which surface at the base of the steep bank immediately north and west of Red Barn Road. Midway and just south of Campbell Road, the Water Department has recently established a new well field. Here the surface water is clearly not related to the ground water supply, which lies beneath some 50 ft. of clay. This well overflowed spontaneously - a true flowing artesian well - indicating that its source must be at some distant and higher elevation.

3. Hazel Brook: Approximate overall length 11,500 ft.

This stream rises in an extensive wooded swamp lying in the northeast corner of Wayland on the Weston and Lincoln town lines. It is fed by a series of springs along the easterly base of the long drumlin east of Lincoln Road. Flowing southerly and then westerly

between firm banks a distance of some 2,250 ft. it enters Stone's Pond, a mill pond built sometime prior to 1775. Traces of the mill race are still visible. Thence it runs generally westerly under Hazelbrook Road, approximately 2,000 ft. between wide fields and marshy banks passing under Concord Road just south of its intersection with Lincoln Road. Here it enters an extensive marshy area and becomes School House Pond, an artificially impounded and attractive shallow body of water lying southwest of the intersection of Sherman Bridge Road and Concord Road but hidden by steep wooded ridges. From the dam at its lower end Hazel Brook flows immediately into the flood plain of the Sudbury River and within a few hundred feet its course becomes unrecognizable long before it enters the River itself over 2,000 ft. away.

4. Mill Brook: Approximate overall length 12,000 ft.

This historic stream rises in a large (over 50 acres) swamp south of Glezen Lane and east of Concord Road - a bog valued for cranberries in Colonial days. An earthen dam constructed by the Sudbury Valley Trustees at its southern end in 1963 forms a small pond and stabilizes the level of the swamp. Flowing south it enters Benjamin's Pond, a small artificial pond dug from the extensive deposits of clay for which Claypit Hill Road nearby is named. Still flowing in a generally southerly direction, large springs add greatly to its volume as it passes the westerly base of a steep ridge just north of Claypit Hill Road, and through a series of pools constructed by the owner for trout fishing. Below Claypit Hill Road the brook enters an extensive flood plain marsh extending all the way from Claypit Hill Road to Plain Road where it enters the Mill Pond. As its name implies, this scenic pond lying between two steep wooded ridges, is the site of the early colonial Cakebread grist mill. From the mill dam it flows southerly under Mill Brook Road and the Boston and Maine Railroad tracks into a long narrow arm of the flood plain of the Sudbury River. Turning west it passes through Wayland center, crossing beneath the intersection of Cochi-tuate Road and Route 20, past the Junior High School through an area extensively developed by the Wayland Garden Club to enhance its beauty. Just west of the Junior High School, it winds through extensive marshes of the River flood plain to join Pine Brook just north of the Sandy Burr Golf Course. Thence the two flow west, joining the Sudbury River just south of the Pelham Island Road Bridge. This is one of Wayland's largest brooks, draining an extensive land area directly through Wayland center. Preservation of its several large swamps is particularly important from a flood control standpoint.

5. Hayward-Pine Brooks:

Hayward Brook develops from two major branches. To the north, from an extensive wooded swamp lying astride the Weston-Wayland boundary east of Draper Road and north of Plain Road. To the south a short branch rises at the Boston and Maine Railroad tracks and flows due north to the main brook. This flows southerly through extensive marshy areas some 2,500 ft. from the Weston line to Plain Road. Between Plain Road and the Boston and Maine Railroad track,

about 500 ft., the brook drops quite rapidly through high banks, but upon crossing under the railroad enters into another extensive area of swampland north of and within the extensively developed area along White Road and Rich Valley Road. Here a major system of branches joins the main brook, flowing from the south and east. Its source is an extensive area of wooded swamp and springs north and west of the intersection of Route 20 and Plain Road. Housing along the northern end of White Road, along Lundy Lane, and at the northern end of Rich Valley Road has encroached seriously on the brook and its swamps in this area. For several hundred feet the brook again drops quite rapidly, passing under Rich Valley Road, and through an extensive swampy area stretching southwest to Route 20 along Wheelock Road to the north. West of Route 20 Hayward Brook almost immediately enters a large flood plain swamp where it soon joins its larger neighbor to the south, Pine Brook. Hayward Brook, from the Weston line to Pine Brook, is approximately 7,500 ft. long.

Pine Brook rises from several small branches near the Weston line south of Westway Road and east of Old Connecticut Path. One of the principal branches, originating from Hamlen's Pond just west of Rice Road, flows north under Rice Road dropping quite rapidly at first, then spreading out into an extensively swampy wooded area draining into Kilburn's Pond, thence under the MDC aqueduct and into Pine Brook just east of Old Connecticut Path. In its upper reaches Pine Brook drops rapidly with only here and there relatively small swamp areas, and generally through firm banks and over rocks, flowing westerly more than 1,000 ft. under Pinebrook Road parallel to and just south of Route 20 until it joins Hayward Brook in the extensive flood plain marsh which stretches irregularly to Cochituate Road some 2,500 ft. to the west. Another small unnamed branch joins Pine Brook here, rising to the south in a series of springs and swampy areas that extend from immediately behind St. Ann's Church, on Cochituate Road, north of Old Connecticut Path, along the north side of the aqueduct. It drains in a generally northerly and northeasterly direction through Morgan's Pond and under Forty Acres Drive, which crosses the southerly tip of the flood plain swamp referred to above. In this swamp the brook reaches the level of the Sudbury River flood plain, though still about 6,000 ft. from the River itself. Passing under Cochituate Road at the South Cemetery, Pine Brook meanders through extensive River flood plain swamp between the Junior High School to the northeast and the Sandy Burr Golf Club to the southwest until it joins Mill Brook and the River as described earlier. The total distance from Hamlen's Pond to the River along the general course of Pine Brook is approximately 13,000 ft.

6. Dudley Brook: Total length approximately 8,000 ft.

Dudley Pond is a large, deep and outstandingly scenic pond of glacial origin, with steep wooded sides. Its very attractiveness stimulated dense human settlement at the beginning of this century. It is probably an outcropping of ground water. Its only surface source is direct runoff plus a small brook draining a 20-acre swamp

lying at its southeast corner just west of Main Street opposite the Highway Department garage. From the extreme northern tip of the Pond, Dudley Brook flows northerly and northwesterly between well-defined banks, passing under Maide~~n~~ Lane just west of the Happy Hollow School and under Old Connecticut Path at the aqueduct. Continuing northwesterly past the High School it enters the Sudbury River flood plain south of Heard's Pond. Dudley Brook is the only stream included in these sub-watersheds that goes essentially completely dry during extended drought. There are no extensive flood control marshes along it until it approaches Old Connecticut Path and enters the flood plain of the River near the High School.

7. Snake Brook: Total overall length approximately 25,500 ft.

Snake Brook rises in two principal branches fed by a series of springs and marshy areas. The first lies along the west side of Rice Road, the second in an extensive wooded swamp southeast of Reeves Hill. Both drain southerly into Snake Brook Reservoir on the west side of Rice Road which was the Town's water supply from 1878 until 1927. From the dam at the south end of the reservoir the brook drops abruptly in a series of rocky cascades to Woodridge Road. Running parallel with Rice Road it passes the Loker School and runs under the metropolitan aqueduct, Thompson and Loker Streets. As it enters an extensive area of swamp land lying just west of Loker Street and extending southerly to Commonwealth Road East its character changes again. Passing under Commonwealth Road East, it drops rapidly for a few feet, then enters another extensive flood plain swamp extending from Damon Farms to the Natick line, then along the Natick line to Main Street, where it enters the State Park and Lake Cochituate. Several small branches, some of them intermittent, rise in various parts of Woodridge, east of Rice Road along the Weston line, the Aqueduct Road area, and northwest of the intersection of Commonwealth Road and School Street.

Like that of Mill Brook, this is one of Wayland's largest drainage areas discharging a seasonally heavy flow of water. In its lower reaches it passes through heavily developed housing areas for more than half its length.

Public and Semi-Public Lands Inventory

a) <u>Summary</u>	Federal	1,574.35 acres
	State	328.11
	Local	905.39
	Semi-public	<u>424.37</u>
	Total	3,232.22

b) Analysis by Land Use

Federal:	Nike Site	28.75 acres
	Nike Site housing	5.6
	Fish & Wildlife Service (Federal Wildlife Refuge)	1,540.0
		<u> </u>
	Total	1,574.35 acres

State:	Cochituate State Park	
	Dept. of Natural Resources	48.71 acres
	Weston Aqueduct, MDC	71.2
	Pod Meadow & High Pressure Aqueduct, MDC	124.8
	Cochituate Aqueduct, MDC	19.6
	Roads - Mass. Turnpike & Rte. 20	<u>63.8</u>
	Total	328.11 acres

Local:	Roads	415.
(itemized on	Schools	200.84
following	Services	79.95
page)	Water, Park, Conservation	<u>205.6</u>
	Total	901.39 acres

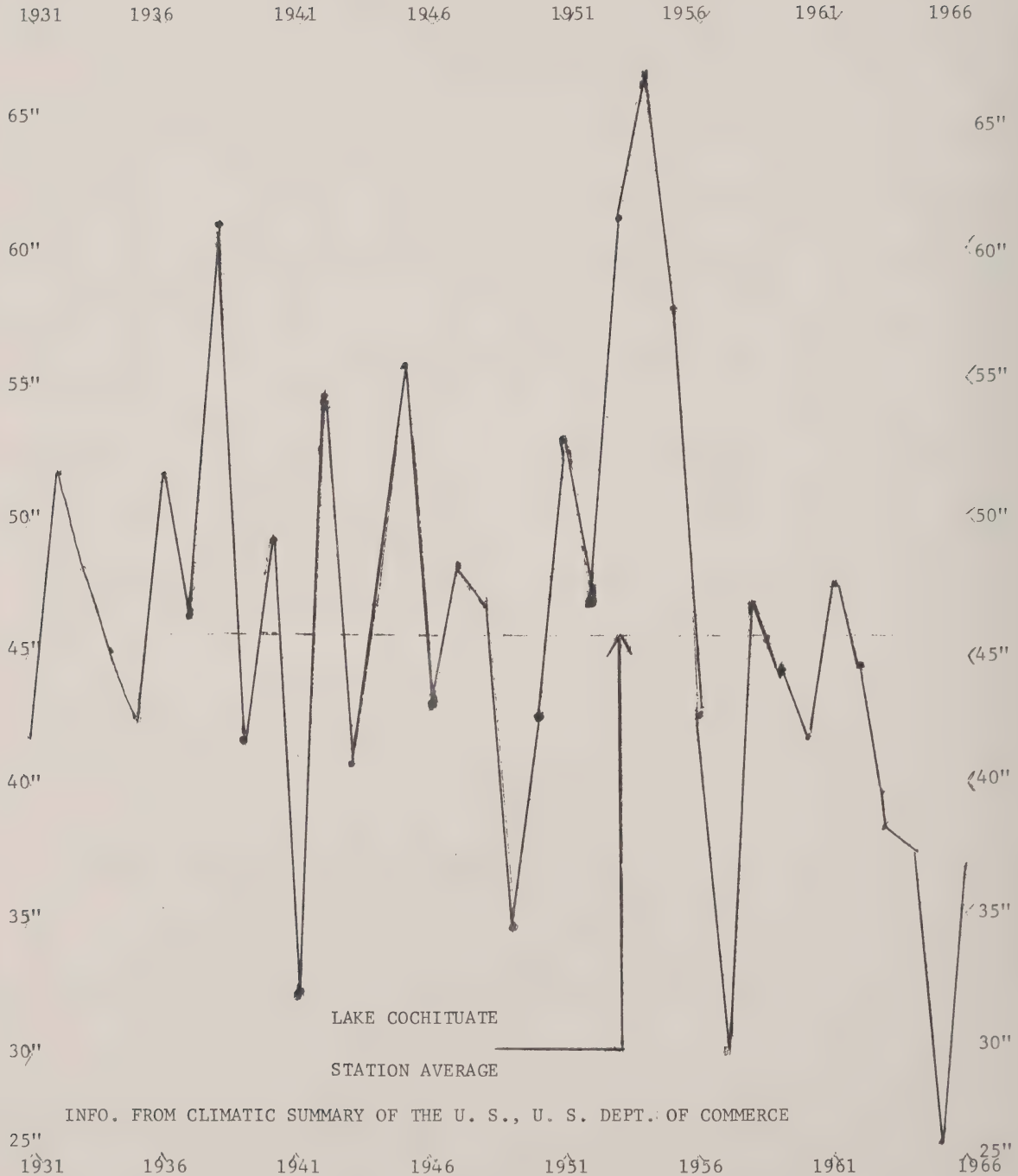
Semi-public and Private Recreation:		
	Sudbury Valley Trustees	193.4
	Girl Scouts	7.57
	Newton YMCA	20.4
	Rod & Gun Club	15.0
	Two Golf Courses	<u>188.0</u>
	Total	424.37 acres

Town of Wayland Public Lands

Services;	Administration - Town Center	9.7 acres
	Wayland Library	1.3
	Cochituate Fire Station & Library	1.5
	Highway Headquarters	6.7
	Highway Dump	22.9
	Town Dump	8.5
	Gravel Pit	4.5
	North, South & Lakeview Cemeteries	<u>24.85</u>
		79.95 acres
Schools;	North Wayland - Alpine Rd. site	12.9 acres
	Claypit Hill	27.12
	Orchard Lane site	13.72
	Junior High School (for school purposes)	8.0
	Happy Hollow School	15.47
	High School	75.0
	Cochituate School	2.3
	Proposed Junior High School	28.83
	Loker School	<u>17.5</u>
		200.84 acres
Water;	North Wayland well site	34.6 acres
	Baldwin Pond Pumping Station	8.2
	Reeves Hill - standpipe	8.4
	High School well site	<u>2.5</u>
		53.7 acres
Park & Recreation;	Cochituate Playground	4.6 acres
	Junior High School site (for park purposes)	29.
	Mill Pond	22.
	Riverview Playground	4.3
	Cochituate Beach Park	8.5
	Dudley Pond (small parcels)	<u>1.8</u>
		70.2 acres
Conservation;	Picard & Campbell (2 tracts by purchase)	11.4 acres
	Cooper land (by purchase)	4.8
	Whiteside land (by purchase)	1.4
	Snakebrook Reservoir (Water Dept. transfer)	18.7
		(inc. water)
	School House Pond area (Deeded by Puritan Homes)	10.9
	3 Snake Brook area parcels " " " "	8.0
	Sears Woods - gift	21.5
	Gerrie land - gift	2.4
	Dow Chemical Co. - gift	<u>2.6</u>
	(Cutler land gift transferred to Federal Wildlife Refuge land)	81.7 acres

LAKE COCHITUATE STATION

TOTAL PRECIPITATION - 1931-66



INFO. FROM CLIMATIC SUMMARY OF THE U. S., U. S. DEPT. OF COMMERCE

APPENDIX IV - BIBLIOGRAPHY

All materials listed are in the Planning Board room of the Town Building, Wayland, unless otherwise specified. Publications are filed in the Conservation Commission file drawer and maps are on the walls or in rolls on the map shelves.

I. The Operation of the Conservation Commission

- a) Revised Manual for Municipal Conservation Commissions (1961, 1965), Dept. of Natural Resources.
- b) Bulletins of the Massachusetts Association of Conservation Commissions (1962-66). (These Bulletins are issued periodically to inform local Conservation Commissions on legal developments and new laws relating to conservation, including forms of deeds, tools and services available for Commission use.)
- c) A Conservation Program for Wayland (1963), published by the Wayland Conservation Commission. This brief, illustrated booklet, states broadly the aims of the local commission and methods of implementation.
- d) Minutes and Annual Reports of the Wayland Conservation Commission.
- e) Conservation Studies of Other Communities.

II. Recent Studies of Wayland Land Use

- a) Planning for Wayland, Massachusetts (Oct. 1962), Wayland Planning Board. The master plan for Wayland includes sections on population projections, recreational and open land preservation, land use and zoning.
- b) Recreation in Wayland (Feb. 1958) for Wayland Planning Board by Harris Planning Associates.
- c) Report of the Recreational Site Committee, appointed under Article 19 of the March 1953 Town Meeting. Citizens' study committee which predates Harris recreation report, presented final report at March 1958 Town Meeting.
- d) Soils and Their Interpretations for Various Land Uses, Town of Wayland (March 1965), U. S. Soil Conservation Service, in cooperation with the Middlesex Conservation District.
- e) Sudbury, Assabet, Concord River Basin Study, (Dec. 1963), SuAsCo River Basin Group of the League of Women Voters.
- f) Wayland, Mass.: A Self-Study of a Growing Community (Oct. 1960), The Greater Boston Economic Study Committee and Wayland League of Women Voters.

- g) Reports of Conservation Commission subcommittees (1965-66): Brooks and Wetlands; Forests and Trails; and Soil Survey Evaluation.

III. Visual Materials

- a) Background Maps Prepared for Wayland Planning Board, (1958) by Harris Planning Associates. Of ten maps, those most pertinent to conservation planning are:

- 1) Map 3 - Land Use Inventory
- 2) Map 4 - Present and Potential Development
- 3) Map 7 - Land Use Including Projected Walks and Trails
- 4) Map 8 - Zoning
- 5) Map 9 - Elevation and Wetland
- 6) Map 10 - Flood Plain

- b) Maps Prepared for Wayland Conservation Commission (1965-66).

- 1) 10A of Planning Board map with color key to show inventory of public lands, by Margot Ross Black.
- 2) 10B of Planning Board map with color key to show brooks and wetlands, by Margot Ross Black.
- 3) Watershed maps of Trout, Hazel, Hayward-Pine, Mill, Snake and Dudley Brooks and Pod Meadow, prepared by Margot Ross Black, Charles Downe Planning Consultant and Forest and Trails subcommittee.
- 4) Master Plan Map prepared by Margot Ross Black, with preliminary map by Charles Downe Planning Consultant.
- 5) Watershed Protection District Map prepared by MacCarthy Engineering Service, with preliminary map by Charles Downe Planning Consultant.
- 6) Hypsography of Wayland, prepared by Peveril Meigs.
- 7) Aerial Photographs of Wayland: small photos included with U. S. Soil Conservation Service soil study; three large size photos of the Town (1965) at a scale of 1 inch equals 400 feet, with overlay prepared by Brooks and Wetlands subcommittee; and additional enlargements of those sections included in Watershed Protection District (enlarged to 1 inch equals 200 feet, same scale as Town Atlas).

- c) Atlas of the Town of Wayland, Everett M. Brooks Co., updated annually.

